

**RTCA Special Committee 186, Working Group 5**

**UAT MOPS**

**Meeting #2**

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**Potential Action Items Related to Definition of UAT Physical Layer**

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<b>SUMMARY</b>
This paper lists a number of potential action items related to the specification of the UAT physical layer.

1. What is the best approach to determining the length of the ADS-B message for proper R/S decoding? If a separate 8 bit length id field is used outside the R/S block—as is the current Capstone approach—could a half rate code supporting 4 information bits be supported to identify payload type? If the length id is only 2-state could it be shortened from 8 bits?
2. What is best combination of CRC and FEC for meeting integrity requirements most efficiently?
3. Quantify benefits for “preamble retrigger” and specify if necessary:
  - How many parallel decode paths are needed?
  - How to deal with sync pattern in the data?
4. What is optimum sync threshold “score” that is best matched to the overall message decoding success while minimizing false alarm for retrigger? Should the threshold be specified? If so, how is it tested?
5. Can a minimal installation without an “ON GROUND” indication continue alternating top and bottom antennas for transmit without significantly sacrificing performance?
6. What is the minimum isolation required for antenna switching (20 dB in 1090 MOPS)?
7. Is an explicit specification needed to describe the filtration on the transmitted signal? If so, how to specify? If not, what implementation loss are we allowing?
8. What kind of receive filtration specification is required?
9. What minimum specification is required on baud rate timing to allow reception of the entire uplink using a single sync sequence? Is it practical to require this minimum?